

Southern California Edison

WSD-011 – Resolution implementing the requirements of Public Utilities Code Sections 8389(d)(1), (2) and (4) related to catastrophic wildfire caused by electrical corporations subject to the Commission’s regulatory authority

DATA REQUEST SET Cal Advocates - SCE - 2021 WMP - 14

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Response Date: 6/10/2021

Question 002:

For each RSE mitigation effectiveness provided in response to Question 1, explain the factors that SCE used to determine the mitigation effectiveness.

Response to Question 002:

For the Distribution and Transmission ground and aerial inspection/remediation programs, all of the mitigation effectiveness percentages that are listed in Response 001 consider the number of notifications remediated and outage events observed per sub-driver. The mitigation effectiveness for each sub-driver was calculated using the following formula:

Mitigation Effectiveness = (P1 Notifications Remediated + P2 Notifications Remediated) / (P1 Notifications Remediated + P2 Notifications Remediated + Faults)

Regarding the explanation of mitigation effectiveness for Covered Conductor and Fire Resistant Poles, please see Attachment 1.

For C-Hooks, engineering expertise was used to determine mitigation effectiveness. Table 1, below, explains the reasoning for each sub-driver that was both applicable and non-zero.

Table 1: C-Hooks Mitigation Effectiveness

Driver		Mitigation Effectiveness	Reasoning
T - EFF	Insulator damage or failure - Transmission	90%	The scope of work for C-Hook replacement also includes replacement of all hardware including insulators. Replacement of old insulators with new insulators will mitigate insulator damage or failure. While effective as a mitigation against insulator

			damage or failure, insulators, as with all assets, tend to lose their effectiveness over time after deployment. To account for this decrease in effectiveness, which is a combination of potential early hazard failure and wear out failure over time, plus some constant hazard of random failure, SCE has assumed 10% reduction in insulator effectiveness over the life of the asset.
T - EFF	Other - Transmission	25%	The scope of work for C-hook replacement includes replacement of all hardware including insulators. Replacement of all hardware at the structure will mitigate the majority of EFF related failures but not failures that could occur related to conductor or splices since the conductor is not being replaced.
T - CTM	Contamination - Transmission	90%	The scope of work for C-Hook replacement includes replacement of all hardware including insulators. Replacement of old insulators with new will mitigate insulator contamination-related failures. SCE has assumed a 10% reduction in mitigation effectiveness since contamination has the potential to occur at any time over the lifecycle of the asset (e.g., bird soil) even though the insulator may have been replaced.

For sectionalizing devices and weather stations, the following logic was applied.

In 2020, SCE's sectionalizing efforts helped avoid over 203,409 customer outages, which represents an estimated 47% decrease from the number of outages the impacted circuits would have otherwise experienced. This was calculated by comparing the total customer count of circuits de-energized with the actual count of customers de-energized, yielding the customers that remained energized through sectionalization during a de-energization activities.

SCE uses live weather station data in an overwhelming majority of its PSPS de-energization decisions. The situational awareness of conditions across a particular circuit, which these weather stations provide, is a crucial enabler in allowing SCE to utilize sectionalizing devices and keep portions of a circuit energized, when appropriate. SCE ascribed a 95% mitigation effectiveness value to our network of weather stations. SCE may utilize live field observations (LFO) to gather information about circuit conditions in rare cases where weather stations are not the primary decision drivers in a de-energization decision. For mitigations where LFO instead of weather station data are used, SCE assigned a mitigation effectiveness of 5%.

The sectionalizing devices in conjunction with the weather stations will allow SCE to perform PSPS

in between sectionalizing devices to reduce PSPS impacts, therefore the combined mitigation effectiveness for the two is $47\% * 95\% = 44.65\%$.